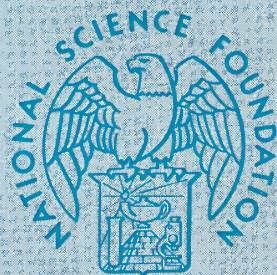


SCIENTIFIC INFORMATION NOTES

Vol. 7, No. 3

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CONTENTS

	Page
Program Initiated to Provide High-Speed Chemical Information to Scientists....	1
Long-Range Information Plan to be Developed.....	2
COSATI Realigns, Gets New Chairman.....	3
Supplementary Report Issued on Copyright Bill.....	3
British Set Up New Sci/Tech Information Organization.....	3
News Briefs	4

MEETINGS AND COURSES

Information Center Managers to Gather in November.....	5
Medical Library Association Elects New Officers.....	5
Medics Examining Own Information Problems.....	6
Study of the Application of Computers to Linguistics.....	6
A&I Services Hold Annual Meeting	6
Forum Held on Education for Special Librarianship.....	7
International Meetings Calendar.....	7

RESEARCH AND DEVELOPMENT

Study Underway of Document Representation Techniques.....	9
Defense Libraries Examine Automatic Data Processing.....	9
Atomic and Molecular Data Information Center.....	9
Microgrammars Subject of NBS Technical Note.....	10
University of Colorado to Establish Medlars Center.....	10
EJC Taps McGowan to Chair Information Committee.....	10
Developments in Chemical Information Handling.....	11
Task Force Sees Need for Automation at NAL.....	11
The Pictorial Structure of Chinese Characters.....	12
Engineers Underway on Pilot A&I Project.....	12

PUBLICATION NOTES

NLM To Publish Notes for Medical Catalogers.....	13
Social Science Periodicals.....	13
Who's Who in Library Service.....	13
Statistics on Special Library Resources.....	14
Translators and Translations.....	14
Subject Category List for Government Sci/Tech Reports.....	14
Computer Literature Compiled.....	14
ALA Compiles List of Non-GPO Government Publications.....	15
Information Technology Literature Available.....	15
Latest NSF Publications.....	17
Grants and Contracts.....	18

Scientific Information NOTES

*Reporting National and International Developments in Scientific and
Technical Information Dissemination*

VOL. 7, No. 3

NATIONAL SCIENCE FOUNDATION, WASHINGTON, D. C.

JUNE-JULY 1965

PROGRAM INITIATED TO PROVIDE HIGH-SPEED CHEMICAL INFORMATION TO SCIENTISTS

DONALD F. HORNIG, Science Advisor to the President, has announced a \$2,043,600 contract between the National Science Foundation and the American Chemical Society to initiate a two-year experimental program aimed at providing a much-needed high-speed source of chemical information for scientists.

The contract is jointly funded by the Foundation, the National Institutes of Health, and the Department of Defense. It provides for establishment by the society's Chemical Abstracts Service (CAS) of a computer-based registry system for chemical compounds and for selected research related to the program.

The two-year program—first announced officially by NSF on March 8¹—also calls for additional research as well as trials and evaluation of the registry system. This work will be carried out by several organizations not yet selected.

The American Chemical Society was selected to conduct the initial work because of its resources and because of provisions in its Federal charter—unique for a scientific society—under which the society makes investigations and reports on chemistry at the request of the Government. Other scientific societies and non-Government organizations will be involved to

ensure that the system will be responsive to all needs.

The program is a pioneering effort in Government inter-agency cooperation in the information systems field. Under the aegis of the White House Office of Science and Technology, the three agencies—NSF, NIH, and DOD—have formed a Task Group to examine Federal interests and needs, and make recommendations for the development of a computer-based chemical information system. The Office of Science and Technology designated NSF as management agency for the two-year program. The Foundation, in turn, has established an inter-agency Technical Coordinating Group to plan and develop the technical aspects of the program.

CAS scientists estimate that about 400,000 chemical references will be fed into the system during each year of the registry contract. About 75,000 references per year will be to chemicals completely new to science, while the other 325,000 will involve new information about known chemicals.

The computer "filing" system will be based on the chemical structure of each compound being considered. Information stored in the computers will include a unique registry number for each compound, a drawing of the compound's chemical structure, its molecular formula, any names (systematic, trivial, or trade names) as well as any laboratory codes assign-

¹ *Scientific Information Notes*, Vol. 7, No. 1, Feb-Mar 1965, p. 1.

ed, and bibliographic references to the journal in which it first appeared and to chemical abstracts in which the compound may be found.

The registry system will assign a unique identifying number—much like a chemical “social security number”—to each compound put into computers. The number will be used to locate information about the compound stored in other computer files.

An essential feature of the registry system will be its ability to identify a compound which has previously been processed and to assign the same number to the compound each time it appears. Brand new compounds will automatically be recognized and assigned their own unique number.

The growth of the registry system to its present state of development and the plans for making the system the basis of a national chemical information network are the result of a CAS research and development program conducted since 1955 (partially supported since 1958 by the National Science Foundation and the National Institutes of Health). The work was aided substantially by research conducted by various Government agencies—including the Department of the Army—and by industry.

Several selected research tasks currently underway at CAS, which were funded by an NSF grant of \$463,000 in January, are being brought under the present contract in order to simplify administrative relations between the Government and CAS.

The 800,000 chemical references processed during the term of the contract will be taken from current chemical publications—making the latest information the most immediately available to chemists. When the mechanized file of information becomes large enough, special computer programs now being developed will be used to search the file to identify compounds that have particular structure features of interest.

The large-scale testing of the substructure search will be conducted first on the system developed at CAS through research supported largely by the National Science Foundation. Substructure search will help chemists relate structure to chemical activity, and perhaps even design chemicals. In this connection, CAS scientists and officials of the supporting agencies hope the system will help answer a great

variety of chemical questions that have defied existing information systems.

Later phases of the program call for trials and studies supporting technical reviews of the registry, and the testing of other approaches to substructure files and searching, as well as tasks aimed at determining the technical and economic feasibility and optimum usefulness of mechanized data handling activities.

LONG-RANGE INFORMATION PLAN TO BE DEVELOPED

The Federal Council for Science and Technology has charged a task group of the Council's Committee on Scientific and Technical Information (COSATI) to develop a long-range plan for further improvement of national scientific and technical information systems.

It is expected that the task group will produce comprehensive recommendations for action by both governmental and non-governmental organizations. A report is scheduled for early fall. During the development of the plan, discussions will be held with representatives of major components of the national technical information network—Government agencies, libraries, publishers, professional societies, and business associations.

The functions and relations of major components of the document-handling system, such as the National Libraries, university and other research libraries, and abstracting, indexing, and alerting services, will be studied specifically. Another major area of interest will be the impact of advanced technologies on the information transfer network.

These information transfer systems supporting the advance of science and technology in the United States have for some years been the subject of Congressional and Executive agency studies. Numerous steps have been taken by the Executive agencies to improve existing systems. The present action goes beyond previous studies in its emphasis on long-range planning for the total national network of information systems.

The COSATI task group is being assisted by a study team of the Systems Development Cor-

poration under a contract with the Department of Defense. Funds for the contract have been contributed by seven agencies, coordinated by the Federal Council for Science and Technology.

The Chairman of the task group is William T. Knox, Office of Science and Technology, who is also Chairman of COSATI.

COSATI REALIGNS, GETS NEW CHAIRMAN

The recent realignment of the structure of the Federal Council for Science and Technology's Committee on Scientific and Technical Information (COSATI) provides for the establishment of a subordinate organization of eight panels. These panels were created to operate along functional lines, and to provide for wider and more continuous coverage of areas of common interest to the Federal agencies. The COSATI panels are: Information Generation; Operational Techniques and Systems; Information Users; Information Processing Technology; International Activities; Budgets and Statistics; External Relationships; and Education and Training.

The expanding functions of COSATI now require a full-time chairman. Consequently, William T. Knox, of the Office of the President's Science Advisor, has assumed the chairmanship. He replaces Lt. Gen. Wm. J. Ely, deputy director of Defense Research and Engineering, who has held the job as an additional position for the past two years.

SUPPLEMENTARY REPORT ISSUED ON COPYRIGHT BILL

A report prepared by the Copyright Office of the Library of Congress, entitled *Supplementary Report of the Register of Copyrights on the General Revision of the U. S. Copyright Law*, has been issued by the House Committee on the Judiciary. This 163-page report is a part of a series begun in 1961 with the initial report of the Register of Copyrights, in which he made certain tentative recommendations for a complete overhaul of the present copyright statute. The *Supplementary Report* explains

why, in the 1965 bill to revise the law now pending before Congress, many of the earlier suggestions were modified or completely changed, and why, in a few cases, provisions were added on points not covered in the 1961 report. It also outlines the main provisions of the 1965 bill and indicates the general structure of the measure as a whole. The *Supplementary Report* may be purchased from the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 20402, for \$1 a copy.

BRITISH SET UP NEW SCI/TECH INFORMATION ORGANIZATION

An Office for Scientific and Technical Information has been set up within the United Kingdom's Department of Education and Science to promote more efficient handling and utilization of scientific and technical information. The broad function of the new office will be to advise the Secretary of State for Education and Science on United Kingdom activities in gathering and communicating scientific and technical information.

In particular the office will

- (a) stimulate research into scientific and technical information problems;
- (b) promote and develop new documentation systems and techniques;
- (c) foster the improvement and wider use of existing services and experiment with new ones;
- (d) promote the training of scientists for information work; and
- (e) endeavor to ensure that British activities in this field are effectively coordinated and linked with those of other countries and international organisations.

The office will be responsible for the National Lending Library for Science and Technology and for grant aid to Aslib, and will take over all support for research and development in this field previously administered by D.S.I.R. It has not, however, taken over the specialized information services of D.S.I.R. The Ministry of Technology, other departments, and the Research Councils will continue to have responsibilities for scientific and technical infor-

mation activities related to their own special interests.

The estimates for 1965-66 include £180,000 for external grants and contracts and provision for a small scientific staff, the nucleus of which has been transferred with the dissolution on 1st April of the Department of Scientific and Industrial Research. Initially the staff will be housed in State House, High Holborn, W.C.1, London (telephone CHAncery 1262).

In addition to setting up the new office the Secretary of State for Education and Science is appointing an Advisory Committee for scientific and technical information problems. Sir James Cook, F.R.S., Vice-Chancellor of Exeter University, has accepted an invitation to be chairman of this committee. Names of other members will be announced shortly. Interested Government departments and agencies are being invited to take part in the work of the committee.

NEWS BRIEFS

... The National Federation of Science Abstracting and Indexing Services has announced the publication of a periodical entitled *Science Periodicals from Mainland China*. Issued quarterly, the new publication consists of tables of contents from approximately 55 Chinese journals being received by the Federation. Photocopies or microfilms of articles or entire journals are also available from the Federation. The three issues remaining to be published this year are available on subscription for \$3. Direct inquiries to Raymond A. Jensen, NFSAIS, 324 East Capitol Street, Washington, D. C., 20003.

... The British Classification Research Group have issued a preliminary draft of a *Classification of Library Science*. It is strictly an interim edition, of which only a limited number of copies are available. It is hoped that tests will be made of the scheme by its application to existing collections on library science (including information retrieval), and that the fruits of these tests will enable omissions and faults to be remedied and a definitive edition published within the next year.

Anyone who is prepared to cooperate by applying the system to a collection, recording notes as to its weaknesses and omissions, and passing these on to the CRG can obtain a copy for \$1.50 so long as the supply lasts. Checks should be made payable to Classification Research Group c/o ASLIB, 3, Belgrave Square, London, England.

... A union list of house journals in science and technology published by industrial companies has been issued by the San Francisco Bay Region Chapter of the Special Libraries Association. Entitled *Science-Technology House Journals*, it is a selected list of journals containing informative articles on research and development. The holdings of 22 libraries of the San Francisco Chapter are represented. Entry is by title with a company name and address index. Copies of the list are available at mailing cost (10 cents in stamps plus a self-addressed mailing label) from Eugenia Ironside, Library, Shell Development Company, Emeryville, California, 94608.

... UNESCO has recently published a supplement to its fourth edition (1961) of the *Bibliography of Interlingual Scientific and Technical Dictionaries*. The 83-page supplement lists some 450 additional interlingual dictionaries which have been located or published since the 1961 edition. As in the bibliography itself, the entries are grouped under subject headings which follow the Universal Decimal Classification, while within each class the entries are arranged alphabetically by author's names. Author, subject, and language indexes are appended. Copies of the supplement are available for \$2, 10/-, or 7 francs from UNESCO, place de Fontenoy, Paris 7e, France.

... The Department of Commerce Clearinghouse has announced that to increase the public availability of Government-sponsored translations it will expand its announcement and distribution to include translations in the social sciences. The Clearinghouse is the center in the Government for the collection and dissemination of Federal R&D reports and translations. Its coverage of translations has been concentrated in the area of the physical sciences, engineering, and related technology. The social

sciences translations will be announced in the Clearing house semi-monthly journal, *Technical Translations*. Copies of the translations will be available to the public at the cost of reproduction and handling.

. . . A national program "to enable business and industries to acquire and use scientific and engineering information more effectively" has been proposed in twin bills introduced by Rep. Oren Harris (D-Ark.) and Sen. Warren G. Magnuson (D-Wash.). The bills (H.R. 3420 and S. 949) would provide Federal aid for the establishment and maintenance of state and regional tech-

nical services programs designed to "place the findings of science usefully in the hands of American enterprise."

. . . The University of North Carolina at Chapel Hill has established a department of information science. The department, under chairman Frederick P. Brooks, Jr., will offer graduate degree programs and will undertake research in the design and application of automatic information processing systems. Information on the instructional and research programs and on opportunities for graduate fellowships and assistant-ships is available from the department.

MEETINGS AND COURSES

INFORMATION CENTER MANAGERS TO GATHER IN NOVEMBER

On November 9-11 Battelle Memorial Institute, Columbus, Ohio, will be the scene of an Ad Hoc Forum of managers and professional analysts of scientific and technical information centers. The organizers of the planned gathering note that there exists at present no mechanism for information center specialists to share experiences, develop theories, and compare operating methods with each other. The Battelle forum is an attempt to provide such a mechanism.

As envisioned by the organizers, the forum will provide a mechanism for participants to meet other information center directors and scientists, discuss critical problems affecting centers, develop common interests, and promote acceptance of the importance of the scientist information analysis function. Plans also include the publication of a specialized directory describing the participants' centers, personnel, specialties, and products.

Should the participants conclude at the end of the first forum that another one would be of value one or two years later, a committee to implement the conclusion will be formed.

Additional information may be obtained from G. S. Simpson, Jr., Battelle Memorial Institute, 505 King Avenue, Columbus, Ohio.

MEDICAL LIBRARY ASSOCIATION ELECTS NEW OFFICERS

The 1965/66 officers of the Medical Library Association were elected during the MLA's 64th annual meeting in the Bellevue-Stratford, Philadelphia.

President	Mr. Alfred N. Brandon, Johns Hopkins University, Welch Medical Library, Baltimore, Md.
Vice-President	Mrs. Mildred C. Langner, University of Miami School of Medicine Library, Mi- ami, Fla.
Secretary	Miss Betty Withrow, Bow- man Gray School of Medi- cine Library, Winston- Salem, N. C.
Treasurer	Dr. Donald Washburn, American Dental Associa- tion Library, Chicago, Ill.

Miss Ruth E. Harlamert, King County Medical Society Library, and Mrs. Mary Fenlon, New York City Department of Health Library, were elected to the Board of Directors for a three-year period.

Headquarters of the association are in Chicago. The Executive Secretary is Mrs. Helen Brown Schmidt.

MEDICS EXAMINING OWN INFORMATION PROBLEMS

In May the American Medical Association brought together eighteen representatives of the medical profession, Government, and medical libraries, and leaders in information sciences to explore problem areas in organization of library resources for the medical practitioner. The meeting focused upon medical society-sponsored libraries and the nonacademic physician whose major activity is patient care.

Hugh Hussey opened the workshop with an overview of the information problem today. This was followed by papers of Robert Hayes and Martin Cummings on developments operating on the present medical library structure and the concept of the information center. The crucial area of the user was covered by Herbert Menzel who outlined the rational of user studies and subsets of users in the medical profession. The design for a study of medical library use was presented by Susan Crawford. During the final period of the workshop, medical society executives and directors of medical libraries responded with examples of their own case histories. In this connection, the idea of an Abridged Index Medicus was discussed by Alfred Brandon and Irvin Hendryson.

This meeting is the first of a three-stage program sponsored by the American Medical Association. The second stage consists of a broad-range study on patterns of medical library use, which will provide data for planning. The final stage will bring the committee together again to discuss the findings and to make recommendations.

STUDY OF THE APPLICATION OF COMPUTERS TO LINGUISTICS

Three linguists will spend the next academic year at The RAND Corporation learning computer techniques under the terms of a grant from the Advanced Science Seminar Program of the National Science Foundation. They are Volney Steffre, of the University of Michigan, Adam Makkai, of Yale University, and Meyer Wolf, of Columbia University.

RAND also will accept up to three seminar participants from industrial firms, who are not

eligible for Foundation support but must pay such costs as the use of computer time. Applications from linguists associated with commercial firms are invited. Direct inquiries to Brownlee Haydon, The RAND Corporation, 1700 Main Street, Santa Monica, California.

During their year in Santa Monica, the linguists will be engaged primarily in research, using the facilities of RAND's linguistics research project, directed by David G. Hays and Theodore W. Zieve. Several linguists and computer programmers will work with the visiting researchers, and a weekly seminar will provide training in mathematics, computer programming, and related matters.

A&I SERVICES HOLD ANNUAL MEETING

Representatives from major U.S. information services gathered March 24, 25, and 26 in Columbus, Ohio, to discuss plans for improving coordination between discipline and mission-oriented, and between Government and private approaches to, abstracting and indexing services. Major emphasis was placed on the fields of biology and chemistry.

During panel discussion moderated by Verner Clapp, president of the Council on Library Resources, a plan was presented by Bernard Fry, director of the Commerce Department's Clearinghouse, for the creation of four clearinghouses for wholesaling abstracts from profession-oriented A&I services to project-oriented services or directly to users. These clearinghouses would be divided into the agricultural sciences, engineering, physical sciences and chemistry, and biomedical sciences.

Plans were further advanced for restructuring the National Federation of Science Abstracting and Indexing Services into a more dynamic and broadly based organization.

The following persons were elected as officers:

President: Carolyn M. Flanagan, General Manager, Engineering Index, Inc., New York, New York

Vice-President: Foster D. Smith, Jr., Director, Science Information, American Geological Institute, Washington, D. C.

Secretary: Ralph E. O'Dette, Director, External Affairs, The Chemical Abstracts Service, Columbus, Ohio
Treasurer: Phyllis V. Parkins, Director, Biological Abstracts, Philadelphia, Pennsylvania.

FORUM HELD ON EDUCATION FOR SPECIAL LIBRARIANSHIP

Educators, librarians, and interested persons closely allied to the field of special librarianship participated in the Special Libraries Association's First Annual Forum on Education for Special Librarianship, June 11, in Philadelphia. The forum was sponsored by the association's Education Committee, Grieg Aspnes, chairman. The theme of the morning, luncheon, and afternoon programs was "1965—Where We Stand; The Market and the Educator."

At the opening session, "The Nature of the Market," recent statistical surveys and data on special libraries and information centers were reviewed and analyzed. This was followed by a panel discussion on the problems of interviewing, selecting, hiring, training, and supervising professional personnel for special libraries. Panels at the afternoon sessions, "Trends in Education," considered whether library education should be general or special and the place of the new concept of information service in the library school curriculum.

Jesse Shera, dean of the School of Library Science, Western Reserve University, and guest luncheon speaker, took "A Look at the Literature," and reviewed his soon to be published study of the literature on education for special librarianship.

It is expected that other forums will be offered in future years to provide a further meeting ground for exploring educational methods for librarianship.

INTERNATIONAL MEETINGS CALENDAR

GORDON RESEARCH CONFERENCE, Scientific Information Problems in Research, New Hampton, N.H., July 19-23, 1965.†

Dr. W. George Parks, Director
c/o University of Rhode Island
Kingston, R. I. 02836

INTERNATIONAL FEDERATION OF LIBRARY ASSOCIATIONS, General Council, 31st Session, Helsinki, Finland, August 16-21, 1965*

Anthony Thompson, General Secretary
13 Vine Court Road
Sevenoaks, Kent, England

INTERNATIONAL COUNCIL FOR BUILDING RESEARCH STUDIES AND DOCUMENTATION. Congress, 3d, Copenhagen, Aug. 23-28, 1965.

Congress Secretariat
c/o DIS Congress Service
19, Sankt Peders Straede
Copenhagen K, Denmark

Followed by the Council's 5th General Assembly, Aug. 30-31

COMMITTEE FOR INTERNATIONAL COOPERATION IN INFORMATION RETRIEVAL AMONG

EXAMINING PATENT OFFICES, Meeting, Annual, London, Aug. 31-Sept. 9, 1965.

Harold Pfeffer, Secretary of the Committee
c/o Officer of Research and Development
U.S. Patent Office
Washington, D. C. 20231

INTERNATIONAL COMMITTEE FOR SOCIAL SCIENCES DOCUMENTATION, General Assembly, Annual, Budapest, Sept. (late) or Oct. (early) 1965.

(Members only)
Prof. Jean Meyriat
27, rue Saint-Guillaume
Paris 7e, France

WORLD CONGRESS OF AGRICULTURAL LIBRARIANS AND DOCUMENTALISTS, 3rd, Washington, D. C., Oct. 3-9, 1965.

c/o Executive Secretary
Third World Congress of Agricultural Librarians and Documentalists

National Agricultural Library
U. S. Department of Agriculture
Washington, D. C. 20250.

International Association of Agricultural Librarians and Documentalists.

* Change of information

† New meeting

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION, ISO/TC 97/SC 7 (Computers and Information Processing/Problem Definition and Analysis), Meeting, Tokyo, Oct. 4-9, 1965†
(Members only)

For further information apply to the standards organization of your country.

INTERNATIONAL FEDERATION FOR DOCUMENTATION, Conference, 31st, Washington, D. C., Oct. 7-16, 1965.

Robert Harté, Chairman of the Organizing Committee and Secretary General
9650 Wisconsin Ave., N.W.
Washington, D. C. 20014

U.S. Air Force Office of Scientific Research; U.S. Office of Naval Research; U.S. Army Research Office; and U.S. National Science Foundation.

Large-scale open Congress, Oct. 10-16, preceded by closed meetings of the General Assembly and committees, Oct. 7-9.

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION, ISO/TC 97 (Computers and Information Processing), Meeting, Tokyo, Oct. 1965.
(Members only)

For further information apply to the standards organization of your country.

ADVISORY GROUP FOR AERONAUTICAL RESEARCH AND DEVELOPMENT, Technical Information and Documentation Committee, Meeting, 18th, Washington, D. C., Oct. 1965.†

64, rue de Varenne,
Paris 7e, France

North Atlantic Treaty Organization.

INTERNATIONAL FEDERATION FOR DOCUMENTATION, Latin American Commission, Meeting, Washington, D. C., Oct. 1965.*

Consejo Nacional de Investigaciones Cientificas y Tecnicas

Rivadavia 1917 (R. 25)
Buenos Aires, Argentina

SCANDINAVIAN ASSOCIATION OF SCIENTIFIC LIBRARIANS, Symposium, Sweden, Fall 1965.†
c/o Library of Parliament
Helsinki, Finland

INTERNATIONAL FEDERATION FOR DOCUMENTATION, Council/Bureau, Meeting, Washington, D. C., 1965.

7 Hofweg
The Hague, Netherlands

SEMINAR ON UTILIZATION OF AUTOMATED DATA, Asia, 1965 or 1966.

United Nations Economic Commission for Asia and the Far East.

Sala Santitham
Rajadamnern Ave.
Bangkok, Thailand

INTERNATIONAL FEDERATION FOR DOCUMENTATION, Conference, 32d, The Hague, Sep. 19-24.* 1966.

7 Hofweg
The Hague, Netherlands

COMMITTEE FOR INTERNATIONAL COOPERATION IN INFORMATION RETRIEVAL AMONG EXAMINING PATENT OFFICES, Meeting, Annual, The Hague, Fall 1966.

Harold Pfeffer, Secretary of the Committee
c/o Office of Research and Development
U.S. Patent Office
Washington, D. C. 20231

INTERNATIONAL COMMITTEE FOR SOCIAL SCIENCES DOCUMENTATION, Plenary Assembly, Evian, Fr., Sep. 1966 or Spring 1967.

27, rue Saint-Guillaume
Paris 7e, France

INTERNATIONAL FEDERATION FOR DOCUMENTATION, Conference, Tokyo, Sep. or Oct. 1967.

Science Council of Japan
Ueno Park
Taito-u
Tokyo, Japan
Regional Conference

INTERNATIONAL CONGRESS ON REPROGRAPHY, 2d, Germany (Fed. Rep.), Oct. 1967.*

Deutsche Gesellschaft fur Photographie
Neumarkt 49
Cologne, Germany (Fed. Rep.)

INTERNATIONAL ASSOCIATION OF TECHNICAL UNIVERSITY LIBRARIES, Working Party, Meeting, Triennial, London, 1967

Clifford Currie, Librarian
Imperial College of Science and Technology
The Lyon Playfair Library
London, S. W. 7, England

* Change of information

† New meeting

Selected from the *World List of Future International Meetings*, which contains notices on conferences in all subject areas. The world list is prepared by the International Organizations Section, Library of Congress, and is available on subscription from the Superintendent of Documents, Government Printing Office, Washington, D. C., 20402.

RESEARCH AND DEVELOPMENT

STUDY UNDERWAY OF DOCUMENT REPRESENTATION TECHNIQUES

The National Science Foundation has granted funds for the investigation of a method for analyzing document representation techniques. Objective of the research is the development of a new method for studying, comparing, and analyzing the different ways of representing documents; e.g., abstracts, index data, or the like. System Development Corporation, Santa Monica, California, will conduct the study, to be directed by Robert V. Katter.

A better understanding of document representation is needed for the evaluation and continued improvement of document retrieval and dissemination systems. The present research is expected to produce a validated means for determining the conceptual dimensions used in representing the contents of documents.

The investigation will be conducted in two phases. In the first phase, a new method for obtaining and analyzing direct judgments of content differences between pairs of documents from within small sets of documents will be tried out and evaluated. The document sets will be taken from the literature of the behavioral and social sciences. In the second phase, the method will be tried on condensed representations of the original test documents. It is planned that the second phase will involve the application of the method to at least two standard abstracting and two standard indexing techniques.

Inquiries should be directed to R.V. Katter, System Development Corporation, 2500 Colorado Avenue, Santa Monica, California.

DEFENSE LIBRARIES EXAMINE AUTOMATIC DATA PROCESSING

The application of automatic data processing to Department of Defense library functions will be the subject of a nine-month evaluative study by Booz-Allen Applied Research, Inc. A

contract for more than \$100,000 has been awarded for the work by the Defense Construction Supply Center, Columbus, Ohio. The study will be monitored by the Defense Documentation Center of Alexandria, Virginia. Both centers are field activities of the Defense Supply Agency.

The study, to be conducted by the Bethesda, Maryland, office of Booz-Allen, involves a detailed survey of DOD Library and Information Analysis Centers in various parts of the continental United States. In announcing the award, Walter M. Carlson, director of technical information for the Department of Defense, said "The results of this work will be of value throughout DOD in improving interchange of scientific and technical information through greater uniformity, common practices, and improved systems."

ATOMIC AND MOLECULAR DATA INFORMATION CENTER

A very specialized information center has been established in the atomic and molecular data field. To be known as the Atomic and Molecular Processes Information Center, the new facility will be located at the Oak Ridge National Laboratory. Sponsored jointly by the Atomic Energy Commission and the National Bureau of Standards, the center will collect, store, evaluate, and disseminate information from all over the world. Activities will be limited at first to atomic and molecular cross section data and other particle collision process information in three areas: the interaction of heavy particles; particle penetration through matter; and excitation, dissociation, ionization, and detachment by external electric and magnetic fields.

The center is scheduled to begin full operation after July 1. Inquiries should be directed to C. F. Barnett, Director, Atomic and Molecular Processes Information Center, Oak Ridge National Laboratory, P.O. Box Y, Oak Ridge, Tennessee.

MICROGRAMMARS SUBJECT OF NBS TECHNICAL NOTE

A Prerequisite to the Utility of Microgrammars is the title of a recently published National Bureau of Standards Technical Note by W. C. Watt.

Microgrammars, sets of grammatical rules which specify coherent sets of sentences limited in scope to the "heart" of (typically) a professional dialect, are under development at various research centers. Such rules provide a step toward the ability to "converse with computers in English" as part of artificial-intelligence systems. This 22-page technical note takes up the question of a hitherto-ignored obstacle to the useful functioning of microgrammars in these systems. This obstacle is the difficulty of "staying within" the microgrammar in man-machine communication, a condition rooted in the fact that microgrammars produce a "language" consisting entirely of English sentences, but of only *some* English sentences; and it is hard or even impossible for the microgrammar-user to remember *which* sentences he is allowed to use. Besides raising this problem, and studying it in some detail, the note indicates steps which may be taken to overcome it. These are steps that lead to making the microgrammar capable of handling nearly all of the sentences likely to be used.

This publication is one of a group of three by the same author. The other two are: *PLACEBO IV Rules, Concordance, Sample Computer Generation* (NBS Technical Note 255, March 9, 1965) and *General Properties of Microgrammars* (in preparation). Together they offer a comprehensive look at the field of microgrammars.

Copies of *A Prerequisite to the Utility of Microgrammars* are available for 25 cents from the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402.

UNIVERSITY OF COLORADO TO ESTABLISH MEDLARS CENTER

Dr. Martin M. Cummings, director of the National Library of Medicine, has announced the award of a \$25,000, six-month contract to the University of Colorado Medical Center for

the establishment and operation of a regional MEDLARS search center. MEDLARS stands for Medical Literature Analysis and Retrieval System, the library's computer-based bibliographic data processing operation.

The Colorado facility will be the second in a proposed network of centers using duplicates of MEDLARS' computer tapes to conduct literature searches for individual scientists and research institutions in the region.

The first MEDLARS search center was established last December in the University of California at Los Angeles. The UCLA pilot center is reprogramming MEDLARS data tapes into a language adaptable to other computer equipment. At Colorado, the duplicate tapes will be used on a computer directly compatible with MEDLARS.

Under the new contract, the National Library of Medicine will train professional library staff from the University of Colorado in MEDLARS search procedure. In turn, the university will furnish NLM with reports on the users' evaluation of the service.

Project Officer for the National Library of Medicine is Charles J. Austin, chief of the library's Data Processing Division. Dr. Frank B. Rogers is project officer for the University of Colorado.

EJC TAPS MCGOWAN TO CHAIR INFORMATION COMMITTEE

The Engineers Joint Council has appointed John P. McGowan, director of The Franklin Institute Library, to the chairmanship of its Engineering Information Committee. The council, which represents more than 600,000 engineers across the country, covers the entire engineering profession.

In his new capacity, Mr. McGowan will lead a team of 40 key engineers in developing an information retrieval center large enough to serve the entire engineering profession. The center is expected to speed the dissemination of new technical engineering data and provide a complete reference source for the profession. Mr. McGowan will direct the creation of a master plan for the center until the program is ready to be implemented.

As chairman of the committee, Mr. McGowan will work closely with the Information Systems Committee of the Department of Defense. As director of the Franklin Institute Library, Mr. McGowan oversees the operations of the Science Information Service, Reference and Circulation Unit, Technical Services, and the Reader's Service.

DEVELOPMENTS IN CHEMICAL INFORMATION HANDLING

A call for information has been issued by the Committee on Modern Methods of Handling Chemical Information of the National Academy of Sciences—National Research Council. The information is for two new subcommittees formed to survey new developments in the field and to study the compatibility of various systems now in use for coding information on chemical structures.

The Subcommittee on New Developments plans to report periodically on progress since 1961 in modern methods of handling chemical information. That date marks the cut-off for material included in the committee's recently published *Survey of Chemical Notations Systems* (NAS-NRC Publication 1150). The subcommittee will maintain a file on all new developments in methods of handling chemical structures and associated information. Those working in the field are encouraged to submit pertinent material.

The Subcommittee on Compatibility requests detailed technical information on type fonts, coding symbols, hand coding formats, and associated machine language formats. Its work will continue and extend the parent committee's long-time interest in the specifics of chemical information coding.

Relevant information in these two areas should be forwarded to Dr. George P. Hager, Dean, College of Pharmacy, University of Minnesota, Minneapolis, Minnesota, who is chairman of the Committee on Modern Methods of Handling Chemical Information. Except for material submitted in confidence, the files of the subcommittees can be made available for inspection, upon request to the chairman.

The activities of the new subcommittees are an important part of the committee's overall

advisory and evaluative function and of its effort to inform the chemical community on plans, progress, and new developments in the fast-changing field of chemical information handling. The committee, which operates under the NAS/NRC Division of Chemistry and Chemical Technology, is supported through a contract with the Army Research Office.

TASK FORCE SEES NEED FOR AUTOMATION AT NAL

Use of electronic computers in the National Agricultural Library of the U.S. Department of Agriculture could lead to manpower savings that would permit the doubling of output in some phases of the library's bibliographic services, according to a task force report released in April.

The report of Task Force ABLE (Agricultural-Biological Literature Exploitation) recommends an automated system to enable the department's library to make more published scientific and technical information available.

The task force was established by Secretary of Agriculture Freeman in April 1963 to undertake a self-survey of the National Agricultural Library. Making up the study group were 19 employees of the Department, one from the National Bureau of Standards, and one each from the University of Florida and Michigan State University.

A major recommendation of the study group is the employment of electronic computers in increasing the number of references in the USDA *Bibliography of Agriculture*, which has been published monthly by NAL since 1945. The task force estimates that by adopting the first stage of the system for the storage and retrieval of bibliography information, \$52,000 could be saved over a three-year period. The savings would be used to help finance the automation as well as help expand the bibliography, through the use of computers, from its present 120,000 citations annually to some 250,000.

The report, which was two years in the making, presents a complete system for many of the clerical functions of the library's activities. Adoption of the system, says the report, would reduce the unit costs of many library operations.

The Library of Congress and the National Medical Library are studying preliminary drafts of the report to determine how the findings may be employed in their efforts to expand the use of automation in their services.

In addition to recommending further automation in the preparation of the *Bibliography of Agriculture*, the task force report also recommends: (1) Immediate automation of all library functions which lend themselves to this method at savings per unit of work, and (2) establishment of a joint study group composed of task force leaders, library personnel, and scientific specialists to study the responses of department researchers to two questionnaires sent them previously. The questionnaires were designed to determine the needs of USDA research scientists for published information, their sources of such information, and an assessment of the adequacy of the sources.

THE PICTORIAL STRUCTURE OF CHINESE CHARACTERS

On the Pictorial Structure of Chinese Characters is the title of a recently published National Bureau of Standards Technical Note. This 40-page publication by Rankin, Sillars, and Hsu purports to describe the pictorial structure of hand-printed Chinese characters. Their approach uses concepts and techniques borrowed from modern structural linguistics, extending and applying them to the pictorial elements and relations which exist in Chinese characters. Just as a grammar can be written to describe the sentences of a natural language, so, it is suggested, can a "grammar" be constructed to describe the Chinese characters. Notions analogous to immediate constituent structure, conditioned variation, distinctive features, and so on, which are useful in describing natural languages, are found to be applicable to the description of characters.

A broad outline, embodying these concepts

for a descriptive grammar of the characters, is set up, and results and problems in one area of this framework, the immediate constituent component, are presented in detail. This component is represented by a grammar of "radical combination" that appears to be comprehensive enough to describe 80 percent of the characters in one of the standard dictionaries. The other components of the framework that are mentioned are: radical variation, stroke combination, stroke variation, and distinctive features of strokes.

Copies of *On the Pictorial Structure of Chinese Characters* are available for 30 cents from the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402.

ENGINEERS UNDERWAY ON PILOT A&I PROJECT

The National Science Foundation has granted partial support to Engineering Index for a pilot program to expand and computerize its sections in plastics engineering and in electrical and electronics engineering. During the first year of operations, approximately 10,000 items in plastics and 20,000 in electrical and electronics will be abstracted and indexed in depth. The abstracts will be published in two new monthly bulletins with author and subject indexes, as well as cumulated indexes for each of the sections. Abstracts, bibliographic citations, and indexes will also be stored on tape for possible use in a future mechanized retrieval service.

The expanded services will be operated as a pilot program under the direction of Carolyn M. Flanagan. Experience gained from the program should contribute significantly in mechanizing and computerizing the entire Engineering Index service in the future.

Direct inquiries to Miss Carolyn M. Flanagan, General Manager, Engineering Index, 345 East 47th Street, New York, New York 10017.

PUBLICATION NOTES

NLM TO PUBLISH NOTES FOR MEDICAL CATALOGERS

The National Library of Medicine has announced plans to issue a new publication, *Notes for Medical Catalogers*, as an aid to library workers who use NLM bibliographic tools such as *Medical Subject Headings (MeSH)*, *National Library of Medicine Classification*, and *National Library of Medicine Catalog*.

Notes for Medical Catalogers will serve as a vehicle for the issuance of additions and changes to the NLM Classification and to *MeSH*; it will also indicate how the library's Cataloging Section adapts *MeSH* for the cataloging of books and new serial titles. Occasionally it will explain the library's descriptive cataloging policies when they differ from standard library practice as set forth by the American Library Association and the Library of Congress.

The first issue of *Notes for Medical Catalogers* appeared in April. The publication will be issued irregularly as the need for information arises. Libraries may order the publication by writing Mr. Samuel Lazerow, Chief, Technical Services Division, National Library of Medicine, 8600 Wisconsin Avenue, Bethesda, Maryland, 20014. *Notes* will be distributed to all readers who have asked to be placed on the *MeSH* mailing list.

SOCIAL SCIENCE PERIODICALS

Yugoslavia and Czechoslovakia are the subjects of two new bibliographies of social science periodicals and monograph series. These are the latest entries in a series devoted to social science literature published in Communist Bloc and other countries using so-called difficult languages. The bibliographies are prepared by the Bureau of Census working under contract to the National Science Foundation. Nineteen have now been published; three others are planned to complete the series.

More than 1500 publications are listed in the two bibliographies, covering such fields as cultural anthropology, economics, history, law, political science, public health, sociology, statistics and others. All publications listed are available in the Library of Congress.

Copies of *Bibliography of Social Science Periodicals and Monograph Series*: Yugoslavia, 1945-1963 (75 cents); and Czechoslovakia, 1948-1963 (65 cents) are available from the Superintendent of Documents, Government Printing Office, Washington, D. C., 20402.

WHO'S WHO IN LIBRARY SERVICE

Who's Who in Library Service, 4th Edition, a biographical directory of professional librarians, will be published in the fall of 1966 under sponsorship of the Council of National Library Associations and other organizations, with the additional cooperation of library schools throughout the country. Questionnaires for this first revision since 1955 will be mailed to professional librarians in September. It is expected that the new edition will contain full biographical sketches of 15-20,000 likely respondents who are active or working librarians, archivists, or information scientists connected with all types of U.S. and Canadian libraries.

Guidance for the inclusiveness of the project is offered by an advisory committee consisting of Gertrude L. Annan, Pauline Atherton, Harry Bitner, Robert H. Blackburn, David H. Clift, Jack Dalton, Elizabeth Ferguson, John A. Humphry, and Bill Woods. The book will be prepared under the general editorial supervision of John H. Ottemiller, associate university librarian of Yale University. Lee Ash, library consultant, who was co-chairman of the Council which produced the third edition of *Who's Who in Library Service*, will serve as editor; Martha Sullivan will be assistant editor. Shoe String Press of Hamden, Connecticut, will be the publisher of the volume which will be issued in new format.

STATISTICS ON SPECIAL LIBRARY RESOURCES

Special library resources in the United States are the subject of a 42-page statistical report prepared by A.T. Kruzas and published by the Gale Research Company. The special libraries/information center population is analyzed in terms of number, institutional setting, main subject interest, size and composition of staff, volume holdings, periodical subscriptions, dates of establishment, and geographical distributions by state and city. The data contained in the report are based primarily on questionnaire responses obtained in a national census conducted during August 1961 to February 1963. Approximately 8,500 facilities are included in the statistical analysis, which is presented in 23 separate tables.

Copies of *Special Libraries and Information Centers* are available for \$1.50 from Gale Research Company, The Book Tower, Detroit 26, Michigan.

TRANSLATORS AND TRANSLATIONS The Special Libraries Association has just published a second, greatly enlarged edition of *Translators and Translations: Services and Sources in Science and Technology*. Like the 1959 volume, this one has been edited by Frances E. Kaiser, Price Gilbert Memorial Library, Georgia Institute of Technology, Atlanta, who has devoted the better part of the past two and one-half years to the project. The 224-page reference, containing a wealth of information about translating personnel and activities, should be a useful directory and reference for the entire scientific community, particularly librarians and literature specialists in industry, Government, universities, professional associations, and publishing firms. It sells for \$14.50.

Containing more than three times as many entries as the highly praised 1959 edition, the present book provides the names, addresses, telephone numbers, educational background, professional experience, volume of translating performed annually, subject and language proficiencies, and other information on 470 free lance translators and 87 commercial transla-

ting firms located principally in the United States but also in Canada and Europe. Part 3 describes 342 pools and other sources of translation information; and part 4 cites 194 bibliographies and lists of translated literature. The latter two parts are international in scope. There are five detailed, computer-produced indexes—Language, Subject, Geographical, Publications, and International and National Information Centers, Depositories, and Affiliated Societies.

Copies may be purchased from the Special Libraries Association, 31 East 10th Street, New York, New York, 10003.

SUBJECT CATEGORY LIST FOR GOVERNMENT SCI/TECH REPORTS

A uniform subject arrangement for the announcement and distribution of U. S. Government scientific and technical reports has been endorsed by the Committee on Scientific and Technical Information (COSATI) of the Federal Council for Science and Technology. The new subject category list, consisting of 22 major subject fields divided into 178 groups, is now available from the Clearinghouse, U.S. Department of Commerce.

For announcement or distribution purposes, abstracts, citations, and the like can be gathered into these broad subject fields or groups for display to the user. The fields or groups may also be useful for arranging projects, tasks, or programs for management reporting purposes.

A task group created by COSATI developed the list. Members of the group represent AEC, NASA, and the Departments of Agriculture, Commerce, Defense, and Health, Education and Welfare.

Order PB 166877N, COSATI SUBJECT CATEGORY LIST, First Edition, December 1964, 60 pages, price \$1, from the Clearinghouse, U. S. Department of Commerce, Springfield, Va. 22151.

COMPUTER LITERATURE COMPILED

If recent computer literature is in your field of interest then you should be aware that the National Bureau of Standards' W. W. Youden

has been working for you. His latest effort is a recently published *Computer Literature Bibliography 1946-1963*, containing 463 pages and selling for \$3.75 a copy. It is available from the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402.

Comprehensive, rapid, and economical access to periodical and proceedings literature in specialized subject areas has been an increasing problem in recent years. This computer-produced bibliography and index is intended to provide such access to more than 6,000 articles published in 9 journals and to more than 100 proceedings in the field of computers and data processing. The *Computer Literature Bibliography 1946-1963* is completely comprehensive for the selected journals and proceedings. Every article is listed with its full title and all authors.

The Title Word (KWIC) Index section of the bibliography enables the reader to find an article if any part of its title is known, or to find all the articles whose titles include a particular word or phrase. The Author Index section lists all authors of each article along with the titles of their articles. Both the Title Word and Author Indexes will guide the user directly to the desired article without a cross reference or second look-up.

This bibliography should be a valuable tool for all computing and data processing specialists, and a necessity for technical libraries that cover any part of the computer field.

ALA COMPILES LIST OF NON-GPO GOVERNMENT PUBLICATIONS

A list of Government publications printed by agencies other than the Government Printing Office is available on request from the American Library Association. Entitled *United States Government Publications, a Partial List of Non-GPO Imprints*, the bibliography was prepared by Jennings Wood of the Library of Congress, and published by the ALA with a grant from the Council on Library Resources.

The 86-page list is intended to bring under bibliographic control some of the Government publications not reported for listing in the *Monthly Catalog of United States Government*

Publications but which may be distributed to depository libraries by the Superintendent of Documents. Entries are arranged alphabetically under issuing agencies within four broad groups: Legislative Branch, Executive Branch, Independent Agencies, and Selected Boards, Commissions, and Committees. Imprints are chiefly from 1961 to 1964.

Direct requests for copies to ALA, 50 East Huron Street, Chicago 11, Illinois.

INFORMATION TECHNOLOGY LITERATURE AVAILABLE

The following reports may be purchased from the Clearinghouse for Federal Scientific and Technical Information, Department of Commerce, Springfield, Virginia, 22151. Order numbers and prices are given.

Automatic Pictorial Analysis Research . . . Picture digitizing equipment now under construction may be able to convert pictorial transparencies into electrical signals in digital form and record these signals on magnetic tape for computer input. The equipment may also accept digital tape recordings in suitable format and display them in pictorial form for photographic recording. Researchers also say objective pictorial analysis is now possible using simple models developed for picture subdivisions. The models help determine mean brightness differences and give results closely similar to observers' judgments. In developing the models, the researchers experimented with one-dimensional pictorial stimuli in which the stimulus brightness (or density) is constant in one direction and varies only in the other. Such stimuli may be thought of as representing single scans across real-world (two-dimensional) pictures. The use of such stimuli makes it possible to study basic textural stimulus variables nearly independently of the form and pattern variables, which otherwise make the subdivision process highly multivariate. Order AD 609 711N, *Study of Pictorial Data Analysis Concepts and Techniques*, Budd Co.'s Information Sciences Center, McLean, Va., for the Air Force, May 1964, 127 pp., price \$4.

Description of the NOL Information Retrieval System . . . describes a set of programs

written in FAP for the 7090. The NOL technical library staff uses this system for document file establishment, maintenance, and searching. Order AD 609 970N, NOL Retrieval System for the 7090, Naval Ordnance Lab., White Oak, Md., Oct. 1964, 41 pp., price \$2.

An Experiment in Information System Design . . . at M.I.T. uses remote consoles to access a time-sharing computer facility (Project MAC). It lets a searcher sit at an electric typewriter, scan a stated range of literature, and perform a search based on key words, key word in context, citation index, bibliographic coupling, author, location, and various combinations of these. The response is printed back on the same typewriter within seconds of the request. The interaction between the user and the system is free of intermediaries and is accomplished by means of a language very close to natural English. The prototype system consists of five major components—a sample literature, computer facility, library of programs, population of users, and a test and monitor procedure. Order AD 608 502N, *The M.I.T. Technical Information Project: I. System Description, M.I.T.* for National Science Foundation, ARPA, and Office of Naval Research, Nov. 1964, 26 pp., price \$2.

Publications on Dependency Theory . . . are listed in a RAND bibliography that references books and papers concerned with the notion that syntax is best described by specifying word-to-word connections (generally called "dependencies") rather than by segmentations of sentences. Some of the works listed contribute to the development of a formal dependency theory in linguistics. Others apply the growing theory to the description of natural languages and to the design of computer systems for machine translation, information retrieval, and other purposes. Some of the papers cited criticize and reject the dependency notion. Order AD 613 469N, *An Annotated Bibliography of Publications on Dependency Theory*, RAND Corporation for the Air Force, Mar. 1965, 22 pp., price \$1.

Computational Linguistics and Documentation . . . references are cited in a RAND bibliography that contains more than 800 U. S. and foreign articles, reports, and books. The work gives selective coverage in the fields of classification theory, computation and programming, computers and hardware, non-numerical appli-

cations of computers, and psycholinguistics. Semi-published sources are the technical reports, research memoranda, and serial studies released by the various research centers in Government, industry, and universities. The bibliography also includes pertinent papers from proceedings of conferences held by professional societies in 1964. Order AD 613 311N, *Computational Linguistics: Bibliography, 1964*, RAND Corporation for the Air Force, Mar. 1965, 60 pp., price \$3.

A Training Manual on Programming . . . prepared by System Development Corp. discusses various aspects of the programming job, programmer selection, training, careers, and future prospects in this occupation. The programming field is described in terms of the knowledge required, the nature of the programs which are produced, and the activities involved in producing programs and data bases. These elements may be grouped in many different ways to form a specific programming job. An initial analysis by SDC researchers identified 17 such jobs. The projected growth of the data processing field indicates a continued need for industrial training of programmers. Improvements in selection and training can be expected to result from better knowledge of programming jobs, continued research on selection techniques, and applications of new instructional methods . . . System Development Corp., Santa Monica, Calif., for the Defense Department, Feb. 1965, 66 pp., Order AD 612 956N, *Computer Programmer Selection and Training in System Development Corporation*, from the Clearinghouse, U.S. Department of Commerce, Springfield, Va. 22151, price \$3.

Profiles of Scientific Journals . . . A survey sponsored by the National Science Foundation shows that it takes from five to seven months to get an article published in any of the 205 technical journals studied. University publications take papers averaging slightly over 10,000 words, whereas 6000 is the rule in society and commercial journals. The great majority of the journals furnish abstracts of their articles to an abstracting service. A few charge the author for illustrations. The cost of publishing a technical journal averages \$54,700 a year, income coming largely from subscriptions (which vary from \$3 to \$45 per year) with almost none from advertising. Subsidies and grants furnish the balance of the

budgets . . . Herner and Co., Washington, D. C. for the National Science Foundation, April 1964, 157 pp. Order PB 166 088N, *Characteristics of Professional Scientific Journals*, from Clearinghouse, U. S. Department of Commerce, Springfield, Va. 22151, price \$5.

A Cumulative Index of Research Results in 1964 . . . for the Air Force Office of Aerospace Research identifies reports produced under contracts, grants, and projects in 137 subject areas. These include such topics as weather observation and forecasting systems, solid propellants, radio and radar astronomy, crystal physics, energy conversion, and geodesy for naviguance. Each bibliographic entry includes corporate author, title and date, and accession number. Many of the unclassified reports can be purchased from the Clearinghouse . . . AF Office of Aerospace Research, 1965, 275 pp . . . Order AD 614 096N, *OAR Cumulative Index of Research Results, 1964*, from the Clearinghouse, U. S. Department of Commerce, Springfield, Va. 22151, price \$6.

Computational Linguistics . . . are covered in a bibliography listing 93 articles on linguistic theory, linguistic research, computational techniques, the Russian and English languages, information retrieval, automatic content analysis, psycholinguistics, and character readers . . . Rand Corp., Santa Monica, Calif., for the Air Force, April 1965, 35 pp . . . Order AD 613 975N, *Annotated Bibliography of Rand Publications in Computational Linguistics*, from the Clearinghouse, U. S. Department of Commerce, Springfield, Va. 22151, price \$2.

List Assembly Programing System . . . combines some of the best features of several list processing languages for computers and makes notable improvements. An effort has been made to keep the language natural and easy to learn. It is flexible and general in that most functions of list processing are easily obtained, yet specialized abilities may be added with minimum difficulty. The LAP system will process a source program to produce an object program for a nonexistent list-processing machine. Its processor simulates the missing hardware and allows the program to be executed on the existing computer. The machine language program assembles subprograms written in the language of the existing hardware. The LAP controlling tape system is the overall master control for the other functions. These four functional,

related pieces of the LAP system marry the language to the computer producing a LAP machine. Its use as a research tool was anticipated in the design. Order AD 611 827N, *LAP—List Assembly Programming System*, General Electric Co., Santa Barbara, Calif., June 1964, 77 pp., price \$3.

Additional Literature on Metals at Battelle . . . The Defense Metals Information Center lists papers on high strength alloys, light metals, nonmetallics, and refractory metals added to its collection during February 1965. Order AD 611 845N, *Selected Accessions*, Battelle Memorial Institute, Columbus, Feb. 1965, 55 pp., price \$3.

Translation Title List . . . Translations acquired in 1963 on nuclear subjects are listed by the Atomic Energy Commission. This bibliography from foreign sources is part of a continuing series. Order TID 4025N, (Rev. 1) (Pt. 1) (Suppl. 3), *Translation Title List and Cross Reference Guide*, AEC, Nov. 1964, 158 pp., price \$6.

LATEST NSF PUBLICATIONS

The following publications were issued by the National Science Foundation during April-May 1965. They are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D. C., 20402.

Scientific Information Activities of Federal Agencies

National Aeronautics and Space Administration

No. 29

NSF 64-29. Price 10 cents

Department of Agriculture—Part II,
National Agricultural Library

No. 30

NSF 65-5. Price 10 cents

Scientific & Technical Personnel in the Federal Government 1961 and 1962

NSF 65-4. Price 40 cents

Financing a College Science Education

NSF 65-6. Price 20 cents

Sixth Annual Weather Modification Report, 1964

NSF 65-9. Price 30 cents

GRANTS AND CONTRACTS

The following grants and contracts were awarded by the National Science Foundation during April and May 1965 in support of improved dissemination of scientific information.

RESEARCH AND STUDIES

American Institute of Physics, \$2,013 for editing the proceedings of the International Conference on Classification Research.

University of Rochester, \$23,600 for support of a review and evaluation of behavior-related studies in the area of scientific information dissemination.

System Development Corporation, \$49,900 for support of a method for analyzing document representation techniques. See page 9.

INFORMATION SYSTEMS

University of Chicago, \$294,000 for support of basic research on methods of translating languages by machine.

Information Dynamics Corporation, \$18,000 amendment to an existing contract for the development and testing of an information system model.

Information Dynamics Corporation, \$49,200 contract for a study of the feasibility of creating a national inventory of the world's scientific and technical serial publications.

Inforonics Inc., \$3,000 amendment to an existing contract for support of a project concerned with machine recording of textual information during the publication of scientific journals.

PUBLICATIONS SUPPORT

American Institute of Physics, \$36,600 for support of the translation of the 1965 issues of the Chinese journal, *Acta Physics Sinica*.

American Institute of Physics, \$1,150 for scientific editing of an English translation of D. Ya. Martynov's book, *A Course in Practical Astrophysics*.

American Geological Institute, \$48,300 for the production and distribution of a selective translation journal, *Geochemistry International*, Vol. II (1965).

American Mathematical Society, \$19,100 for the production of an English edition of *Transactions of the Moscow Mathematical Society*, Volume XIV (1965).

American Mathematical Society, \$79,968 for support of a program for selective translation of mathematics research articles from Russian and other foreign languages.

American Museum of Natural History, \$88,200 for the preparation and publication of a *Catalogue of Smaller Index Foraminifera*.

American Museum of Natural History, \$1,750 for publication of a monograph, *Deltatheridids, A New Order of Mammals*.

American Shore & Beach Preservation Association, \$750 for the preparation and publication of a 30-year cumulative index to *Shore and Beach*.

Biological Abstracts, \$112,800 for the publication of *Biological Titles*, a separately bound supplement to *Biological Abstracts*, containing computer-produced indexes to articles that are not included in the regular issues.

University of California, \$72,600 for the preparation of Volume VIII, *Bibliography of Fossil Vertebrates*.

U.S. Department of Commerce/Joint Publications Research Service, \$7,040 for the translation of *Acta Geologica Sinica*, Volume 44, nos. 1-4, 1964.

Engineering Index, Inc., \$100,000 for the preparation and publication of *Engineering Index*.

New York Botanical Garden, \$3,425 for the publication of the *Manual of the Leafy Hepaticae of Latin America*, Part II.

Research Institute for the Study of Man, \$8,000 for support of a bibliographic guide for social science research in the non-Hispanic territories of the Caribbean.

Yale University, \$5,610 for the preparation and publication of a 6-year index to *Radiocarbon*.

DOMESTIC AND FOREIGN SCIENCE INFORMATION

American Geological Institute, \$1,500 for support of a resume of earth sciences publications activities.

Biological Abstracts, Inc., \$1,840 for support of a resume of biological science publications activities.

National Academy of Sciences/National Research Council, \$4,744 for the preparation and publication of a new edition of the *International Directory of Anthropologists*.

Syracuse University, \$5,725 for support of a symposium on the Foundations of Access to Knowledge to be held in Syracuse, NY, during July 1965.

PLANS ADVANCE FOR FID WASHINGTON CONGRESS

The 1965 Congress of the International Federation for Documentation will be held in Washington, D. C., at the Sheraton-Park Hotel, October 10-15. The congress is sponsored in the United States by the National Academy of Sciences-National Research Council and the American Documentation Institute. Registration is open to all who are interested in documentation and information science; the active member registration fee is \$35. Affiliation with a documentation organization, library, or allied institution is not a requisite for membership in the congress.

Eminent documentalists from many parts of the world will participate in symposia scheduled under five areas of investigation, as follows:

Education and Training of Documentalists, Chairman—William N. Locke (MIT)

1. The present state of education and training
2. Needs for the next ten years and how to meet them

Organization of Information for Documentation, Chairman—Pauline Altherton (American Institute of Physics)

1. Transformation and organization of information content-contributions from applied linguistics, logic, psychology, classification research, and related fields
2. Comparison and evaluation of transformation techniques and organizational structures in documentation systems

Information Needs of Science and Technology, Chairman—Robert W. Scott (Esso Research and Engineering Company)

1. Methodology
2. Increasing the efficiency of information

Information Needs of Society, Chairman—Lowell Levin (Yale University)

1. a. Relationship between information and social behavior
- b. Projection of future needs for in-

formation for social issues, progress, analysis

- c. Organizing a methodology for determining information needs of society
 - d. State of the art for information systems
 - e. Elements, complexities, implications of an ideal information world
2. Specific knowledge areas: sociology, anthropology, psychology, education, political science, economics, health

Principles of Documentation and Systems Design, Chairman—Mortimer Taube (Documentation Inc.)

1. a. Cumulative character of sciences and the information requirement
 - b. Analysis of the substantive content of information stores
 - c. The input process
2. a. File structure and search
 - b. Dissemination of information and problems of graphic presentation

In addition there will be sessions of volunteer papers and technical exhibits by industrial firms.

A full program of entertainment is being arranged for all registrants, including a number of special events for the ladies. Among the social events included in the registration fee are a special opening of the National Gallery of Art and a reception and buffet dinner.

Luther H. Evans (Columbia University) is president of the congress and Burton W. Adkinson (National Science Foundation) is president of FID.

Advance registration is urged, and will be accepted until September 15. The volume of abstracts will be mailed prior to the congress to those who have registered by August 15. Registration facilities will also be provided during the congress. For full information and registration and hotel reservation forms write to: Secretariat, 1965 FID Congress, 9650 Wisconsin Avenue, Washington, D. C., 20014.

Edited by Staff of Office of Science Information Service

Contributions and cooperation are solicited from interested individuals and organizations in this country and abroad. Communications should be addressed to Richard A. Elmendorf, Editor, *Scientific Information Notes*, National Science Foundation, Washington, D.C. 20550. *Scientific Information Notes* is available at 25 cents for a single copy and on subscription for \$1.25 per year (\$1.75 foreign) through the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Use of funds for printing this publication approved by the Director of the Bureau of the Budget, January 30, 1963.

